

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2278	(341/156,155).CCLS.	USPAT	OR	OFF	2007/01/18 09:41
L2	437	(341/156,155).CCLS.	US-PGPU B	OR	OFF	2007/01/18 09:42
L3	52	(341/156).CCLS.	US-PGPU B	OR	OFF	2007/01/18 09:42
L4	660	(analog ADJ1 digital or ad or adc) image array ampl\$5	US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TDB	SAME	ON	2007/01/18 09:43
L5	100	(analog ADJ1 digital or ad or adc) image array ampl\$5	US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TDB	WITH	ON	2007/01/18 09:43
L6	1	(analog ADJ1 digital or ad or adc) image array ampl\$5 and l1	US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TDB	WITH	ON	2007/01/18 09:44



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L7	6	(analog ADJ1 digital or ad or adc) image array ampl\$5 and l1	US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	SAME	ON	2007/01/18 09:44
L8	0	(analog ADJ1 digital or ad or adc) image array ampl\$5 and l3	US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	SAME	ON	2007/01/18 09:44
L9	3465	(analog ADJ1 digital or ad or adc) image array	US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	SAME	ON	2007/01/18 09:44
L10	0	(analog ADJ1 digital or ad or adc) image array and l3	US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TD B	SAME	ON	2007/01/18 09:44





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Full text available:  pdf(542.19 KB) 

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In this paper, we describe the design and implementation of a prototype architecture for implementing the JPEG baseline image compression sta the principles of pipelining and parallelism to the maximum extent in or and throughput. The architecture for discrete cosine transform and the on efficient algorithms designed for high speed VLSI implementation. Th using the Cadence tools and b ...

**Keywords:** 100 MHz, 1024 pixel, 1048576 pixel, CMOS digital integrat DCT, DSP chip, JAGUAR architecture, JPEG baseline image compression compression, VLSI, VLSI chip architecture, color images, data compress processing chips, discrete cosine transform, discrete cosine transforms, encoder, high speed IC, high throughput, image coding, parallel archite processing, pipelining, prototype implementation



## **20 SPOTS track: Networked infomechanical systems: a mobile embedded platform**

Richard Pon, Maxim A. Batalin, Jason Gordon, Aman Kansal, Duo Liu, Moh Shirachi, Yan Yu, Mark Hansen, William J. Kaiser, Mani Srivastava, Gaurav  
**April 2005 Proceedings of the 4th international symposium on Inf  
sensor networks IPSN '05**

**Publisher: IEEE Press**

Full text available:  [pdf\(365.69 KB\)](#) Additional Information: [full citation,](#)

Networked Infomechanical Systems (NIMS) introduces a new actuation networked sensing. By exploiting a constrained actuation method based infrastructure, NIMS suspends a network of wireless mobile and fixed sensors in a 3-dimensional space. This permits run-time adaptation with variable sensor density and even sensor type. Discoveries in NIMS environmental investigations for 1) new embedded platforms int ...

**Keywords:** actuation, embedded, mobility, networked, sensor, system

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M. Kovac, N. Ranganathan, M. Zagar

**March 1995** Proceedings of the 1995 European conference on De

**Publisher: IEEE Computer Society**

Full text available:  pdf(542.19 KB) 

Publisher  
Site

**Additional Information: full citation,**

In this paper, we describe the design and implementation of a prototype architecture for implementing the JPEG baseline image compression standard. We apply the principles of pipelining and parallelism to the maximum extent in order to increase the area and throughput. The architecture for discrete cosine transform and the quantization are based on efficient algorithms designed for high speed VLSI implementation. The design is implemented using the Cadence tools and b ...


**Keywords:** 100 MHz, 1024 pixel, 1048576 pixel, CMOS digital integrator, DCT, DSP chip, JAGUAR architecture, JPEG baseline image compression, VLSI, VLSI chip architecture, color images, data compression, processing chips, discrete cosine transform, discrete cosine transforms, encoder, high speed IC, high throughput, image coding, parallel architecture, processing, pipelining, prototype implementation



## **20 SPOTS track: Networked infomechanical systems: a mobile embedded platform**

Richard Pon, Maxim A. Batalin, Jason Gordon, Aman Kansal, Duo Liu, Moh Shirachi, Yan Yu, Mark Hansen, William J. Kaiser, Mani Srivastava, Gaurav  
April 2005 **Proceedings of the 4th international symposium on Inf  
sensor networks IPSN '05**

**Publisher: IEEE Press**

Full text available:  [pdf\(365.69 KB\)](#) Additional Information: [full citation](#),

Networked Infomechanical Systems (NIMS) introduces a new actuation-networked sensing. By exploiting a constrained actuation method based infrastructure, NIMS suspends a network of wireless mobile and fixed sensors in a 3-dimensional space. This permits run-time adaptation with variable sensor density and even sensor type. Discoveries in NIMS environmental investigations for 1) new embedded platforms int ...

**Keywords:** actuation, embedded, mobility, networked, sensor, system

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### 1 Layout tools for analog ICs and mixed-signal SoCs: a survey

[ACM](#) Rob A. Rutenbar, John M. Cohn

May 2000 **Proceedings of the 2000 international symposium on P**

**Publisher:** ACM Press

Full text available: [pdf\(247.03 KB\)](#) Additional Information: [full citation](#),

### 2 (Special session) presentation + poster discussion: university design of a real-time VGA 3-D image sensor using mixed-signal techniques

Yusuke Oike, Makoto Ikeda, Kunihiro Asada

January 2004 **Proceedings of the 2004 conference on Asia South Pacific design automation: electronic design and solution fair ASP-DAC '04**

**Publisher:** IEEE Press

Full text available: [pdf\(506.41 KB\)](#)

[Publisher Site](#)


Additional Information: [full citation](#),


We have developed the first real-time 3-D image sensor with VGA pixel signal techniques to achieve high-speed and high-accuracy range calculation section method. Our mixed-signal position detector, which consists of a



and time-domain approximate ADCs, provides significant information for during high-speed analog-to-digital conversion. Moreover the position a profile of a projected be ...

### 3 "Empty space" computes: the evolution of an unconventional superc

Jonathan W. Mills, Matt Parker, Bryce Himebaugh, Craig Shue, Brian Kope  
 May 2006 **Proceedings of the 3rd conference on Computing fronti**  
**Publisher: ACM Press**

Full text available:  pdf(1.82 MB) Additional Information: full citation, index terms

Lee A. Rubel defined the extended analog computer to avoid the limitations of a purpose analog computer. Partial differential equation solvers were a "q" Rubel's theoretical machine. These components have been implemented in VLSI circuits without transistors, as well as conductive plastic. For the past 10 years, Indiana University has explored the design and applications of extended analog machines. These machines have become increasingly important in the field of analog computing.


**Keywords:** Lukasiewicz logic, extended analog computer, general purpose hybrid digital-analog architecture

### 4 Personal imaging and lookpainting as tools for personal documentary photojournalism

Steve Mann

March 1999 **Mobile Networks and Applications**, Volume 4 Issue 1

**Publisher: Kluwer Academic Publishers**

Full text available:  pdf(2.24 MB) Additional Information: full citation, citations, index

A means and apparatus for covert capture of extremely high-resolution images is presented. The apparatus embodies a new form of user-interface – "instant and click" metaphor which was thought to be the simplest photography metaphor. The proposed is a "look" metaphor in which images are generated through the act of looking around, in a manner that does not require conscious thought or


### 5 A 3-pin 1.5 V 550 mW 176 x 144 self-clocked CMOS active pixel im

Kwang-Bo Cho, Alexander Krymski, Eric Fossum  


August 2001 **Proceedings of the 2001 international symposium on VLSI and design ISLPED '01**

**Publisher: ACM Press**



Full text available:  [pdf\(350.69 KB\)](#) Additional Information: [full citation](#),


**Keywords:** CMOS, active pixel sensor, image sensor, low-power, low-v

## 6 Reviewed papers: Using image processing to teach CS1 and CS2

 Kenny Hunt


December 2003 **ACM SIGCSE Bulletin**, Volume 35 Issue 4

**Publisher:** ACM Press

Full text available:  [pdf\(676.87 KB\)](#) Additional Information: [full citation](#), [citations](#)



The use of digital image processing techniques in undergraduate computer science courses has many advantages in terms of motivating student interest and immediate, visual feedback. Although the standard Java distribution includes support for basic operations, including the display of images, the complexity of the package is often a barrier for inexperienced programmers. This paper presents an extension to the built-in package that is suitable for ...

## 7 High performance imaging using large camera arrays

 Bennett Wilburn, Neel Joshi, Vaibhav Vaish, Eino-Ville Talvala, Emilio Antonio Adams, Mark Horowitz, Marc Levoy

July 2005 **ACM Transactions on Graphics (TOG) , ACM SIGGRAPH '05**, Volume 24 Issue 3

**Publisher:** ACM Press

Full text available:  [pdf\(902.47 KB\)](#)  [mov \(21:45 MIN\)](#) Additional Information: [full citation](#), [citations](#), [index](#)

The advent of inexpensive digital image sensors and the ability to create synthetic information from a number of sensed images are changing the way we view the world. In this paper, we describe a unique array of 100 custom video cameras that we have built to summarize our experiences using this array in a range of imaging applications. We explore the capabilities of a system that would be inexpensive to produce and use. In our mind, we used s ...

**Keywords:** camera arrays, spatiotemporal sampling, synthetic aperture



**8** High dynamic range imaging

◆ Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik  
**August 2004 ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

**Publisher: ACM Press**

Full text available:  [pdf\(20.22 MB\)](#)


Additional Information: [full citation](#),

Current display devices can display only a limited range of contrast and main reasons that most image acquisition, processing, and display technology use eight bits per color channel. This course outlines recent advances in high dynamic range imaging from capture to display, that remove this restriction, thereby enabling full color gamut and dynamic range of the original scene rather than the limited range of the current monitor ...

**9** Scanned-display computer graphics

◆ A. Michael Noll  
**March 1971 Communications of the ACM, Volume 14 Issue 3**

**Publisher: ACM Press**

Full text available:  [pdf\(781.96 KB\)](#) Additional Information: [full citation](#),  
[citations](#)

A television-like scanned-display system has been successfully implemented in a 224 computer installation. The scanned image is stored in the core memory. Software scan conversion is used to convert the rectangular coordinates of the image to appropriate word and bit in an output display array in core storage. Refresh rate of flicker-free displays of large amounts of data are possible with reasonable interaction. A scanned image ...

**Keywords:** computer graphics, raster displays, scan conversion, scanned display

**10** Applications: Cyclops: in situ image sensing and interpretation in wireless sensor networks

◆ Mohammad Rahimi, Rick Baer, Obimdinachi I. Iroezzi, Juan C. Garcia, Jay Mani Srivastava

**November 2005 Proceedings of the 3rd international conference on networked sensor systems SenSys '05**

**Publisher: ACM Press**

Full text available:  [pdf\(1.25 MB\)](#)

Additional Information: [full citation](#),  
[citations](#), [index](#)

Despite their increasing sophistication, wireless sensor networks still do not have the ability to sense and interpret their environment in situ.



powerful of the human senses: vision. Indeed, vision provides humans with the ability to distinguish objects and identify their importance. Our work seeks to replicate this ability with similar capabilities by exploiting emerging, cheap, low-power and low-cost imaging technology. In fact, we can go beyond the stereo capabilities of the large scale of ...

**Keywords:** CMOS imaging, imaging, power efficiency, sensor network,

## 11 Progress in Picture Processing: 1969--71

◆ Azriel Rosenfeld  
June 1973 **ACM Computing Surveys (CSUR)**, Volume 5 Issue 2


**Publisher:** ACM Press

Full text available:  pdf(2.34 MB) Additional Information: full citation, terms

## 12 An on-line image processing system

◆ I. H. Barkdoll, B. L. McGlamery  
January 1968 **Proceedings of the 1968 23rd ACM national conference**

**Publisher:** ACM Press


Full text available:  pdf(2.04 MB) Additional Information: full citation,

The high-speed digital computer has contributed to significant progress in the particular area of optics benefiting from this progress is image processing. Image processing is to aid the human observer in extracting from an image information obscured by some type of degradation. The numerous factors which can degrade an image in an optical system include lens aberrations, poor focus, image distortion, etc. ...

## 13 MAPS: a generalized image processor

◆ Michael Fischer  
September 1973 **ACM SIGGRAPH Computer Graphics**, Volume 7 Issue 3

**Publisher:** ACM Press

Full text available:  pdf(769.35 KB) Additional Information: full citation,

By approaching two and three-dimensional problems from the spatial viewpoint of geographic sciences, the Multi-dimensional Analysis



<u>S</u>ystem (MAPS) is able to achieve high efficiency and large ca interactive graphics, simulation modeling, and image processing. Spatia presented by means of color images, rather than line drawings, facilitat

#### 14 Track 6: autonomic and organic computing: Marching-pixels: a new paradigm for smart sensor processor arrays



Dietmar Fey, Daniel Schmidt

May 2005 **Proceedings of the 2nd conference on Computing front**

**Publisher: ACM Press**

Full text available: [pdf\(606.57 KB\)](#) Additional Information: [full citation](#), [index terms](#)

In this paper we present a new organic computing principle denoted as architectures of future smart CMOS camera chips. The idea of marching realization of a massively-parallel fine-grain single-chip processor array organic units which are propagating in a pixel processor array, similar to algorithms. The task of the marching pixels is to carry out autonomously processing tasks, e.g ...

**Keywords:** image pre-processing, organic computing, self-organization smart pixels

#### 15 Inexpensive real-time image generation and control



Bill Etra, Lou Katz

April 1977 **ACM SIGGRAPH Computer Graphics**, Volume 11 Issue 1

**Publisher: ACM Press**

Full text available: [pdf\(603.12 KB\)](#) Additional Information: [full citation](#), [index terms](#)

#### 16 TPphotoSuite: a windows based digital image processing program

Tauhida Parveen

January 2004 **Journal of Computing Sciences in Colleges**, Volume

**Publisher: Consortium for Computing Sciences in Colleges**

Full text available: [pdf\(184.78 KB\)](#) Additional Information: [full citation](#), [index terms](#)

The purpose of this paper is to present a Windows based software tool capable of performing image-processing operations. *TPphotoSuite* is fre



compatible platform, the existing image processing operations can be modified and new operations can be added to it. *TPphotoSuite* provides a user-friendly GUI for computer literacy for it to use. It contains many features that are used as, color ...

### 17 Three-dimensional medical imaging: algorithms and computer systems



M. R. Stytz, G. Frieder, O. Frieder

December 1991 **ACM Computing Surveys (CSUR)**, Volume 23 Issue

**Publisher:** ACM Press

Full text available: pdf(7.38 MB)

Additional Information: [full citation](#), [terms](#), [review](#)

**Keywords:** Computer graphics, medical imaging, surface rendering, th volume rendering

### 18 Cellular wave computers and CNN technology - a SoC architecture sensor arrays

T. Roska

May 2005 **Proceedings of the 2005 IEEE/ACM International conference on computer-aided design ICCAD '05**

**Publisher:** IEEE Computer Society

Full text available: pdf(415.00 KB)

Additional Information: [full citation](#),

Cellular wave computers and cellular nonlinear network (CNN) technology paper. It is a system-on-chip (SoC) architecture with xK processors and architectural lessons from the trends in manufacturing billion components. The threshold of 100 nm feature size will determine the architecture, the and the type of algorithms needed, hence also the complexity of the solution.

### 19 Anti-aliasing in topological color spaces



Kenneth Turkowski

August 1986 **ACM SIGGRAPH Computer Graphics , Proceedings of conference on Computer graphics and interactive techniques '86**, Volume 20 Issue 4

**Publisher:** ACM Press

Full text available: pdf(5.19

Additional Information: [full citation](#),



MB)index terms

The power of a color space to perform well in interpolation problems such as smooth-shading is dependent on the topology of the color space as well as the topology it contains. We develop the *Major-minor* color space, which has a topology that lends itself to simple anti-aliasing computations between elements of an array and an inexpensive frame store.

## **20 Bio-Inspired Analog VLSI Design Realizes Programmable Complex Dynamics on a Single Chip**

R. Carmona, F. Jiménez-Garrido, R. Domínguez-Castro, S. Espejo, A. Rodríguez

March 2002 **Proceedings of the conference on Design, automation and test in Europe**

**DATE '02**

**Publisher: IEEE Computer Society**

Full text available:  pdf(4.22

MB)

Additional Information: full citation,

A bio-inspired model for an analog parallel array processor (APAP), based on the structure of the vertebrate retina, permits the realization of complex spatio-temporal dynamics. It mimics the way in which images are processed in the visual pathway and provides a feasible alternative for the implementation of early vision tasks. In a stand-alone prototype chip has been designed in 0.5  $\mu\text{m}$  CMOS. Design challenges, trade-offs and blocks of such a high-complexity system (0.5 ...

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